To: Macler, Bruce[Macler.Bruce@epa.gov]
From: Melissa Pandika
Sent: Wed 5/1/2013 5:00:09 PM
Subject: Re: Follow-up questions

Hi Bruce,
Thanks again for getting to these questions. I very much appreciate it!

I just have one more question--besides Santa Cruz, are there any other parts of the Bay Area (specifically in San Mateo and/or Santa Clara counties, since Peninsula Press covers these regions) where the groundwater is most likely to have elevated chromium-6 levels?

Thanks so much!

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On Apr 30, 2013, at 8:02 PM, "Macler, Bruce" <Macler.Bruce@epa.gov> wrote:

Hi Melissa,
I'm in Sacramento all day today, but will get to this tomorrow (Weds).
1) Groundwater is a very important source of drinking water for California. For some communities, it is the only source.
2) Elevated hexavalent chromium is only found in groundwater. Surface water typically only has trivalent chromium. Not all groundwaters have hexavalent chromium, though. Naturally occurring hot spots are along the west side of the Sacramento Valley from Davis north, the Coachella Valley between Palm Springs and the Salton Sea, the area around Santa Cruz, and from Hinkley east to the CA border. The Glendale/ Burbank area has elevated hexavalent chromium from aircraft manufacturing during WWII.
3) You are about right that 25-40 of drinking water comes from groundwater, and that it varies by year and area. So it is significant.
4) Hexavalent chromium isn't likely to be controlled by a "Brita" filter, which basically absorbs chlorine and some organics that have taste and odor properties. Reverse osmosis and some kinds of ion-exchange systems can take out chromium, but are expensive to operate and maintain.
Bruce

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From: Melissa Pandika [mpandika@stanford.edu]
Sent: Tuesday, April 30, 2013 12:38 AM
To: Macler, Bruce
Cc: Yogi, David
Subject: Follow-up questions

Dear Bruce,
Thank you so much for the phone call last week. It was really informative. I actually have a few more follow-up questions to ask before we submit this for publication. It would be great if you could respond as soon as you have the chance.

1. Firstly, I wanted to confirm that it's correct to say that groundwater is an important drinking water source in California?
2. I'm still not sure I'm clear on the extent to which chromium-6 gets into California drinking water at appreciable/detectable levels. For example, is it correct to say that areas supplied by local groundwater are more likely to have appreciable/detectable levels of chromium-6, while areas supplied by the Hetch Hectchy reservoir/delta system are more likely to have chromium-6 levels below 1 ug/L, since Hetch Hetchy is mostly surface water? Where in California is drinking water most likely to contain detectable levels of chromium-6? Are there maps available?
3. What percentage of the California public water supply is from groundwater? According to the 1997 State Water Resources Control Board Strategic Plan, between 25 and 40 percent of California's water supply in an average year comes from groundwater, a figure that can be as high as two thirds in critically dry years. The same report states that California uses more groundwater than any other state. However, I'm not sure whether you happen to have more recent statistics?
4. I know you mentioned that chromium-6 levels in California drinking water sources aren't cause for concern--but if they were, hypothetically speaking, can Brita-style filters filter chromium-6 out of drinking/tap water? If not, are there any other methods that people could use to filter chromium-6 out of tap water?

Thank you for taking the time to answer these questions; I'd just like to make sure that I fact-check everything and not end up unnecessarily scaring readers. I appreciate your time!

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